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10/720,534	11/24/2003	Kavi Mahesh	ORCL.P0070C	4394

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EXAMINER

STARKS, WILBERT L

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,534

Applicant(s)

MAHESH, KAVI

Examiner

Wilbert L. Starks, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 16-34 is directed to non-statutory subject matter.

2. Regardless of whether any of the claims are in the technological arts, none of them is limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "terminological information" references are just such abstract ideas.

3. Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the

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same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street*'s holding that:

Today we hold that *the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.* (emphasis added) *State Street Bank* at 1601.

4. True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly *did not* go so far as to make business methods *per se* statutory. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

5. The court was being very specific.

6. Additionally, the court was also careful to specify that the "useful, concrete and tangible result" it found was "a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." (i.e. the trading activity is the further practical use of the real world

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monetary data beyond the transformation in the computer – i.e., “post-processing activity”.)

7. Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

8. Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...the dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating ‘abstract ideas’ or ‘natural phenomena’ ... As the Supreme Court has made clear, ‘[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation.’ *In re Warmerdam* 31 USPQ2d at 1759 (emphasis added).

9. Since the Federal Circuit held in *Warmerdam* that this is the “dispositive issue” when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is “useful, concrete, and tangible” in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract “terminological information” to solve purely algorithmic problems in the abstract (i.e., what *kind* of “information” is used? Algebraic word problems? Boolean logic problems? Fuzzy logic algorithms? Probabilistic word problems? Philosophical ideas? Even vague expressions, about which even reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a claim for manipulation of “terminological information” is provably even more abstract (and thereby less limited in practical application) than pure “mathematical algorithms” which the Supreme Court has held are per se nonstatutory – in fact, it *includes* the expression of nonstatutory mathematical algorithms.

10. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. 101 doctrine.

11. Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of “useful, concrete, and tangible” the Federal Circuit applied in *State Street Bank*. Therefore, under *State Street Bank*, this could not be a “useful, concrete and tangible result”. There is only manipulation of abstract ideas.

12. The Federal Circuit validated the use of *Warmerdam* in its more recent *AT&T Corp. v. Excel Communications, Inc.* decision. The Court reminded us that:

Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that ‘taking several abstract ideas and manipulating them together adds nothing to the basic equation’; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court’s conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

13. Remember that in *In re Warmerdam*, the Court said that this was the dispositive issue to be considered. In the *AT&T* decision cited above, the Court reaffirms that this is the issue for assessing the “useful, concrete, and tangible” nature of a set of claims under 101 doctrine. Accordingly, Examiner views the *Warmerdam* holding as the dispositive issue in this analogous case.

14. The fact that the invention is merely the manipulation of *abstract ideas* is clear. The data referred to by Applicant’s phrase “terminological information” is simply an abstract construct that does not limit the claims to the transformation of real world data

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(such as monetary data or heart rhythm data) by some disclosed process.

Consequently, the necessary conclusion under *AT&T*, *State Street* and *Warmerdam*, is straightforward and clear. The claims take several abstract ideas (i.e., "terminological information" in the abstract) and manipulate them together adding nothing to the basic equation. Claims 16-34 are, thereby, rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-34 are rejected under 35 USC 112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a 101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application. This is how the MPEP puts it:

("The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35 U.S.C. 101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. § 101, then the application **also fails as a matter of law** to enable one of ordinary skill in the art to use the invention under 35 U.S.C. § 112."; In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**"). See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 16-34 are rejected on this basis.

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. §101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. §101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. §101.

2. Claim 16 is rejected under 35 U.S.C. §101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 6,654,731 B1. This is a double patenting rejection.

Specifically,

Claim 16

Claim 16's "receiving, into a computer, input terminology information comprising a plurality of input terms and information that specifies ontological relationships among at least two of said input terms;" is taught by Mahesh, claim 1, where it recites:

receiving, into a computer, input terminology information comprising a plurality of input terms and information that specifies linguistic or semantic relationships among at least two of said input terms;

Claim 16's "storing, in said computer, a knowledge base comprising a plurality of ontologies, each one of said ontologies comprising a plurality of nodes hierarchically

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arranged to depict ontological relationships among said nodes, each node representing a term;" is taught by Mahesh, claim 1, where it recites:

storing, in said computer, a knowledge base comprising a plurality of ontologies, each one of said ontologies comprising a plurality of nodes hierarchically arranged to depict linguistic and semantic relationships among said nodes, each node representing a term, wherein linguistic associations include associations between at least two terms where a term representing a child node is a type of a term representing a parent node, and semantic associations include associations between at least two nodes, although generally associated together, a node representing a child node is not a type of a concept representing a parent node;

Claim 16's "parsing said input terminology information to generate a logical structure that depicts ontological relationships among said input terms in a format compatible with said knowledge base;" is taught by Mahesh, claim 1, where it recites:

parsing said input terminology information to generate a logical structure that depicts linguistic or semantic relationships among said input terms in a format compatible with said knowledge base;

Claim 16's "determining whether at least one input term exists as a node in said knowledge base;" is taught by Mahesh, claim 1, where it recites:

determining whether at least one input term exists as a node in said knowledge base;

Claim 16's "generating a new and independent ontology for said knowledge base comprising said logical structure of said ontological relationships if none of said input terms exist as nodes in said knowledge base; and" is taught by Mahesh, claim 1, where it recites:

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generating a new and independent ontology for said knowledge base comprising said logical structure of said linguistic or semantic relationships if none of said input terms exist as nodes in said knowledge base; and

Claim 16's "extending said knowledge base by storing data that logically couples said logical structure of said ontological relationships to a node that matches an input term." is taught by Mahesh, claim 1, where it recites:

extending said knowledge base by storing data that logically couples said logical structure of said linguistic or semantic relationships to a node that matches an input term.

Response to Arguments

3. Applicant's arguments filed 14 October 2004 have been fully considered but they are not persuasive. Specifically, Applicant makes three arguments:

Argument 1

Terminological information may be thought of as a vocabulary of technical terms used in a particular field, subset, science, or art. Being domain specific or topic specific (Spec. p.3, I.9), terminological information 110 (FIG. 1) comprises multiple terms, as well as information that relates at least two terms. (Spec., p.6, I.21-22). For example, terminological information may include the terms "hepatitis" and "blood diseases", and the information that "blood diseases" is a broader term than the term "hepatitis." (Spec., p.7, I.1-3). In one embodiment, the input terminological information 110 (FIG. 1) consists of up to sixteen thesauri and the maximum length of a term is 80 characters. (Spec. p.24, I.7-9)

Applicant misses the point. Applicant points to a term of variable and vague meaning that is clearly abstract and makes the conclusory statement that it is concrete and tangible. Applicant also gives unclaimed concrete examples that could be plugged

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into the place of the abstract "terminological information" phrase and suggests that Examiner should use these unclaimed examples to deem the claims statutory.

Applicant's argument is unpersuasive.

The point that Examiner makes is this: Claims are to be judged by their **limitations**. Applicant has not **limited** his claims to statutory subject matter. Clearly within the scope of Applicant's claims are pieces of "terminological information" that are purely mathematical and without specified practical application (e.g., the terms "Pi", radians, e, square root, subtraction, addition, analytic on a curve, Cauchy integral, ring, field, tensor, etc. All of these are dimensionless terms without specific practical application in 101 doctrine) In fact, the court case cited by Examiner actually specified the "terminological information" of a "bubble hierarchy" to define relationships between components of a robotic arm...and that case was still found to be nonstatutory because the pure concept of a "bubble hierarchy" was found to be too abstract. Applicant's "terminological information" is an abstraction that includes bubble hierarchies within its scope. Therefore, it is Examiner's opinion that Applicant's term is too abstract for patent protection and the rejection STANDS.

Argument 2

Several patents have issues that employ terminological information as part of the claim limitations. In addition to claims 4-7 and 11-14 of the parent patent U.S. 6,654,731 reciting the claim term "terminological information," the claims of United States patent US 5,471,392 (claims 1 and 13), German patent DE 4422391, and Japanese patent JP 3514264 recite the claim term "terminological information." Moreover, the term "terminological information" is utilized in the specifications of US 5,471,392, DE 4422391, JP 3514264, US 200210107683, and U.S. 6,654,731.

Examiners are not permitted to comment on the validity of allowed patents. As such, those documents are irrelevant to this prosecution...they are not stare decisis precedent on any other case nor are they persuasive law. Only decisions at the Board level and above have such effect. Examiner's conclusions are consistent with Board decisions, all Federal Circuit decisions in the Alappat/Warmerdam/State Street line of cases, and all applicable Supreme Court precedents.

Examiner bases his decision in this case only on the facts in the case and the law that is applicable to them. Applicant's argument on this point is insufficient to shift his burden of proof on the 101 issues in the case. Therefore, the rejection STANDS.

Argument 3

Claim 16 recites that the received terminological information contains information that specifies "**ontological relationships**" among at least two input terms. Thus, the scope of claim 16 includes all explicit formal specifications of the relationships that hold among the input terms. The scope of claim 1 of US 6,654,731 in this context is limited to two explicit formal specifications of the relationships that hold among the input terms: **linguistic relationships** and **semantic relationships**. Thus, claim 16 and claim 1 of US 6,654,731 are not coextensive in scope. Accordingly, Applicant respectfully requests that the examiner withdraw the rejection to claim 16.

Examiner reminds Applicant of the basic definition of an "ontological relationship":

ontology

An ontology is a particular theory or model about the nature of a domain of objects and the relationships among them.... (See,

Raynor, William, The International Dictionary of Artificial Intelligence,
Glenlake Publishing Co., Ltd., Chicago, IL, 1999, p.213.)

"Linguistic relationships" and "semantic relationships" are both subsets of "ontological relationships". As such, the new term completely recaptures the previously patented material. The recaptured material is identical to what appeared in the previous patents. This is not permissible under double patenting doctrine. Applicant's argument on this point is insufficient to shift his burden of proof in the case. Therefore, the rejection STANDS.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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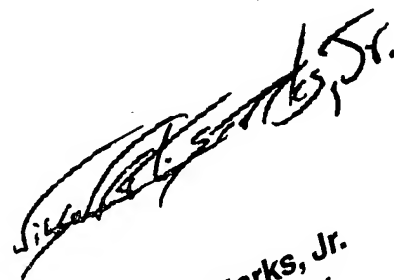
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571) 272-3691.

Alternatively, inquiries may be directed to the following:

S. P. E. Anthony Knight	(571) 272-3687
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WLS

06 January 2005



Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121